

CHAPTER 1 INTRODUCTION

SECTION I. GENERAL INFORMATION

1.1 SCOPE.

This manual describes how to install, operate, and maintain the Multiple Integrated Laser Engagement System (MILES 2000) Tactical Engagement Simulation System (TESS) when configured on the Independent Target System (ITS). The manual also explains all authorized operator maintenance. Refer any maintenance problems not covered to organizational maintenance personnel.

1.2 MAINTENANCE FORMS AND RECORDS.

Department of the Army forms and procedures used for equipment maintenance will be those described by DA PAM 738-750, The Army Maintenance Management System (TAMMS). Marine Corps personnel will use TM 4700-15/1, Equipment Record Procedures, and refer to the on-line MCPDS or Marine Corps Stocklist SL-1-2, Index of Technical Publications.

1.3 REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIRs).

If your MILES 2000 equipment for the ITS needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on a Quality Deficiency Report. Mail to us at Commander, Simulation, Training, and Instrumentation Command (STRICOM), ATTN: AMSTI-OPS-L, 12350 Research Parkway, Orlando, FL 32826-3276. We'll send you a reply.

1.4 CORROSION PREVENTION AND CONTROL.

- a. Corrosion Prevention and Control (CPC) of material is a continuing concern. It is important that any corrosion problems with this item be reported so the problem can be corrected and improvements can be made to prevent the problem in the future.
- b. While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials such as rubber and plastic. Unusual cracking, softening, swelling or breaking of these materials may be a corrosion problem.
- c. If a corrosion problem is identified, it can be reported using form SF-368. Use of key words such as "corrosion," "rust," "deterioration," or "cracking" will assure that the information is identified as a CPC problem.
- d. The form should be submitted to Commander, Simulation, Training, and Instrumentation Command (STRICOM), ATTN: AMSTI-OPS-L, 12350 Research Parkway, Orlando, FL 32826-3276.

1.5 PREPARATION FOR STORAGE OR SHIPMENT.

When receiving equipment for storage or shipment, always inspect the returned equipment for damage, breaks, cracks, and cleanliness.

1.6 LIST OF ABBREVIATIONS AND GLOSSARY.

Refer to Table 1-1 for the list of abbreviations used with the MILES 2000 System, and refer to Table 1-2 for the Glossary.

Table 1-1. List of Abbreviations

AAV	Assault Amphibious Vehicle
AC-DC	Alternating Current/Direct Current
ASAAF	Automatic Small Arms Alignment Fixture
ATWESS	Anti-Tank Weapons Effects Signature Simulator
AVCPS	Audio Visual Cue Pyrotechnic Simulator
BFA	Blank Firing Adapter
BIT	Built-In-Test
CD/TDTD (Controller Gun)	Controller Device/Training Data Transfer Device
CDA	Control Display Assembly
CPC	Corrosion Prevention and Control
CSWS	Crew Served Weapon System
CU	Control Unit
CVC	Combat Vehicle Crew
CVS	Combat Vehicle System
DC-DC	Direct Current/Direct Current
DIFCUE	Direct/Indirect Fire Cue
DPCU	Data Processing Control Unit
EIR	Equipment Improvement Recommendation
EOD	Explosive Ordnance Disposal
FCU	Fire Control Unit
FlashWESS	Flash Weapons Effects Signature Simulator
FU	Firing Unit
ID	Identification
I/O	Input/Output
IR	Infrared
ISU	Integrated Sight Unit
ITS	Independent Target System
IWS	Individual Weapons System
IWS Console (DPCU)	Individual Weapons System Console (Data Processing Control Unit)

Table 1-1. List of Abbreviations - Continued.

KSI	Kill Status Indicator
LAV	Light Armored Vehicle
LASER	Light Amplification by Simulated Emission of Radiation
LED	Light Emitting Diode
LTU	Laser Transmitter Unit
LU	Loader Unit
MARS	MILES After-Action Review System
MCS	Master Control Station
MG	Machine Gun
MGS	Missile Guidance System
MGSS	Main Gun Signature Simulator
MILES	Multiple Integrated Laser Engagement System
O/C	Observer Controller
OTPD	Optical Turret Positioning Device
PID	Player Identification
Pk	Probability of Kill
PMCS	Preventive Maintenance Checks and Services
PROM	Programmable Read-Only Memory
SAT	Small Arms Transmitter
SMAW	Shoulder-Mounted Assault Weapon
SWS	Surrogate Weapons System
TAMMS	The Army Maintenance Management System
TESS	Tactical Engagement Simulation System
TNB	Turret Network Box
TOW	Tube-Launched Optically-Tracked Wire-Guided Weapon System
ULT	Universal Laser Transmitter
Vac	Volts Alternating Current
Vdc	Volts Direct Current

Table 1-2. Glossary.

Administrative Kill	A kill assessed by a Controller for administrative purposes.
Automatic Small Arms Alignment Fixture (ASAAF)	Device used to align the Small Arms Transmitter (SAT) to the sights on a weapon.
Catastrophic Kill	A kill that totally disables a vehicle or individual.
Cheat Kill	A kill is assessed to a system when a tamper attempt has been detected.
Commo Kill	A kill that disables external communications.
Commo Override	Use the Control Unit USER INFO/ENTER push button to override the communications disable function under Communications/ Catastrophic Kill conditions in an emergency
Controller	An umpire or referee in a MILES 2000 training exercise.
Controller Device (CD/TDTD)	A device used by the Controller to upload, download and test the MILES 2000 system. Referred to as the "Controller Gun."
Direct/Indirect Fire Cue (DIFCUE)	A device that produces flash, noise, and smoke to simulate a vehicle being hit by direct or indirect fire.
Fastener Tape	A hook and pile type tape used to hold vehicle detector belts and other MILES 2000 equipment in place.
Firepower Kill	A kill that disables vehicle weapons.
Helmet Harness	The part of the IWS attached to the helmet or soft cover.
Hit	Simulated contact with incoming fire that does not result in a Kill.
Individual Weapons System (IWS)	The Helmet and Torso Harness assemblies and IWS Console (DPCU), which is worn by personnel. This equipment also includes the Small Arms Transmitter (SAT).
Kill	Refer to Catastrophic Kill, Commo Kill, Firepower Kill, or Mobility Kill
Kill Status Indicator (KSI)	A device attached to a vehicle that produces an external flashing light indicating a Hit, Near Miss or Kill.
LASER	Light Amplification by Simulated Emission of Radiation. A narrow beam of light capable of transmitting information.
Laser Beam	In MILES 2000 equipment, an eye-safe, invisible beam of light that simulates weapons fire.
Laser Detector	A device that senses incoming laser beams.
Laser Transmitter	A device that transmits a laser beam.
Main Gun Signature Simulator (MGSS)	A device that produces a flash and bang to simulate main gun firing.
Mobility Kill	A kill that disables the vehicle movement. The crew has 20 seconds to bring the vehicle to a stop. If motion is sensed after the 20 seconds, a Cheat Kill will occur.

Table 1-2. Glossary - Continued.

Near Miss	Laser fire close enough to be sensed by a laser detector, but not close enough to cause a Hit or Kill.
Optical Turret Positioning Device (OTPD)	A device that provides an optical reference signal to the turret detector belts (on applicable vehicles) to determine the turret position with reference to the hull.
Reset	Brings the system to the ready (alive) condition. In a CVS, the reset brings the system to a ready condition and returns ammunition to the default levels.
Resurrect	When a CVS is resurrected, the system is brought to a ready condition, but the ammunition levels remain as they were when the system was killed.
Small Arms Transmitter (SAT)	A laser transmitter used on various individual and vehicle-mounted rifles and machine guns.
Torso Harness	The part of the IWS that is worn on the upper body.
Universal Laser Transmitter (ULT)	A laser transmitter used on various combat vehicle systems mounted on the main gun and the coax machine gun.
Weapon Token	Is embedded in software and allows the IWS Console (DPCU) to enable a SAT. The Weapon Token is transmitted to the IWS when the system is reset/resurrected by the CD/TDTD. The SAT cannot be enabled without a Weapon Token and will not have one in the following conditions: system is killed or another SAT is enabled with the same Torso Harness.

NOTE

Vehicle kits contain the SATs for the vehicle mounted weapons, but do not include IWS SATs.

1.7 SAFETY, CARE, AND HANDLING.

Before, during and after operation of equipment, read and adhere to all applicable WARNINGS and CAUTIONS. Perform all preventive maintenance checks and services as scheduled, and report any discrepancies as soon as possible. Use the proper tools and procedures for installation, troubleshooting, removal and replacement of components, and notify higher echelon maintenance personnel when warranted.

Although MILES 2000 consists of ruggedized equipment designed to withstand extreme vibration, shock, and environmental stresses. Treat the equipment with reasonable care. Do not use excessive force when handling, packing, or stowing equipment. Responsible handling and use will help prolong the life cycle and appearance of the equipment.

SECTION II. EQUIPMENT DESCRIPTION AND DATA

1.8 EQUIPMENT CHARACTERISTICS, CAPABILITIES AND FEATURES.

1.8.1 Equipment Characteristics. The MILES 2000 Independent Target System (ITS) permits the vehicle and crew to take part in realistic combat training exercises. Actual firing conditions of all vehicle weapons are simulated using other MILES 2000 kits. Blank ammunition, and on some vehicles, an optional Direct/Indirect Fire Cue (DIFCUE) add to the system's realism.

Laser detectors mounted on the ITS vehicles sense incoming fire. The MILES 2000 system electronics determine the accuracy and simulated damage of incoming fire. The system also detects the type of weapon and Player ID (PID) that directed fire against the ITS vehicle.

1.8.2 Capabilities and Features.

- a. Easily installed and removed.
- b. DIFCUE, if used, pyrotechnic charges add realism to weapon use.
- c. Detects all incoming fire, identifies opposing weapons and Player ID (PID), and determines the effect of incoming fire on the using vehicle.
- d. High visibility Kill Status Indicator (KSI) strobe light signals vehicle Near Miss, Hit or Kill.
- e. Compatible with all other MILES devices.

1.9 LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.

1.9.1 The MILES 2000 Independent Target System (ITS) contains the following equipment:

NOTE

MILES equipment installation procedures should be followed as outlined in the technical manual. If the following procedures CANNOT be followed due to cable length, vehicles not listed, or additional vehicle equipment, then place the MILES equipment in the best and safest location.

- a. Vehicle Detector Array and Amplifier. The Vehicle Detector Array provides detection coverage for each aspect of the vehicle's vulnerability zones. The location of the Detector Array is determined by the specific configuration of the vehicle to which it is mounted.
- b. Kill Status Indicator (KSI). The KSI is an integrated status indicator which provides information to an attacking vehicle. The KSI is composed of two major functional elements: a visual strobe and the decoder/interface electronics. The KSI also includes the interface inputs to trigger the DIFCUE, (if used), the serial bus interface, and the optical I/O port. The optical I/O port provides the optical interface to the Controller Device/Training Data Transfer Device (CD/TDTD) for transfer of vehicle types/Pk data uploading and events downloading. The KSI also includes a motion sensor to detect vehicle motion after a Mobility Kill to allow the CU to assess a Cheat Kill if motion occurs after 20 seconds. The location of the unit is determined by the specific configuration of the vehicle to which it is mounted.
- c. Control Unit (CU). The CU contains all the primary user interface functions, displays and controls. Weapon selection, ammo selection, loading/reloading of ammunition, and weapon status are functions

provided by the CU. The location of the Control Unit is determined by the specific configuration of the vehicle to which it is mounted.

- d. Power Controller. The Power Controller assembly provides 24 Vdc, the charging voltage for the internal lead acid batteries, as well as power to the MILES 2000 system. The 24-volt battery is converted to 10.5 Vdc output by a DC-DC converter for use by the MILES 2000 kit, and provides backup power for 100 hours. The battery also supplies power to the KSI for a 10 minute time period in the event the vehicle's power is turned off and the vehicle is killed. The location of the unit is determined by the specific configuration of the vehicle to which it is mounted.

1.9.2 **Components/Systems that can be used with MILES 2000 ITS:**

- a. M2 Small Arms Transmitter (SAT). Adaptation for the specific weapon is through a factory set laser power adjustment, modifying the encoded personality Programmable Read-Only Memory (PROM), and attaching the weapon specific mounting adapter. The laser power is factory adjusted to represent the specific weapon type and simulate its firing capabilities. The SAT is powered by an internal 3.6-volt lithium battery, with a three (3) year battery life. The M2 SAT adapter attaches to the machine cooling jacket.
- b. Direct/Indirect Fire Cue (DIFCUE) (if used). The optional DIFCUE consists of two (2) units: the Fire Control Unit (FCU) and the firing Unit (FU). The DIFCUE simulates the vehicle receiving a direct/indirect hit from incoming rounds. It gives an audio (bang) and visual (smoke) indication when a vehicle is hit. The location of the FU and the FCU is determined by the specific configuration of the vehicle on which they are mounted.
- c. TOW Tracker Head. The TOW Tracker Head assembly provides the Laser Transmitter Unit (LTU) and Control Unit (CU) for the TOW simulation package (if used).
- d. TOW Simulator Tube. TOW Simulator Tube is used to represent the encased missile. The Simulator Tube contains the Anti-tank Weapons Effect Signature Simulator (ATWESS) and simulates the effects of firing the TOW (if used).

1.10 **EQUIPMENT DATA.**

Table 1-3 defines the equipment data.

Table 1-3. Equipment Data.

EQUIPMENT	WEIGHT (POUNDS)	DIMENSIONS L x W x D (INCHES)	NUMBER OF DETECTORS	NOTES
Detector Array	3.2		6	
Kill Status Indicator (KSI)	4.7	8.4 x 8.5 x 6.4		
Control Unit (CU)	1.0	4.2 x 5.2 x 2.2		
Power Controller	7.9	6.1 x 5.9 x 3.0		

SECTION III. THEORY OF OPERATION

1.11 BASIC PRINCIPLES OF OPERATION.

1.11.1 Principles of Operation (MILES 2000). The MILES 2000 system uses laser beams to simulate actual weapons fire. An eye-safe invisible laser beam is sent out by each weapon's transmitter when it is fired. The laser beam is coded and simulates all of the weapon's capabilities including range, accuracy and destructive capability.

Laser detector systems are used to sense incoming fire. The detector systems register incoming laser beams and determine whether they have scored a Near Miss, Hit or Kill. Incoming fire can result in more than one type of a Hit or Kill. Types of hits or kills include Mobility, Communications, Firepower or a Catastrophic Kill of the entire vehicle.

1.11.2 Principles of Operation Independent Target System (ITS). Each ITS vehicle has a Detector Array attached to strategic points on the vehicle. This array has detectors which sense incoming fire. A Control Unit (CU) displays the extent of incoming fire and its effect. The Kill Status Indicator (KSI) is activated when incoming fire is detected. Any weapons used on the ITS are equipped with laser transmitters that are fired using normal weapon operating procedures.

1.11.3 M2 Machine Gun. The M2 machine gun is fired using normal procedures. The gun is fitted with a Blank Fire Adapter (BFA) and loaded with blank ammunition. The sound/flash of blank fire is sensed by the M2 SAT mounted on the machine gun's cooling jacket. The laser transmitter will operate as long as blank ammunition is being fired.

1.11.4 Detector Array. The detector array senses incoming fire and is mounted in accordance with the vehicle configuration. Each array is electrically divided which represent the sides of the vehicle. They generate electrical signals that are fed to a decoder in the KSI.

1.11.5 Kill Status Indicator (KSI). Receives MILES messages from the detector array, decodes them and then routes all valid messages to the Control Unit (CU). It has an optical port for external interface with the CD/TDTD, a motion sensor, and provides a trigger signal to the DIFCUE, if used. It is mounted to provide 360° visibility of the flashing light. Refer to Table 1-4 Kill Indication Chart for a list of the types of kills and the KSI indications.

1.11.6 Direct/Indirect Fire Cue (DIFCUE). The optional DIFCUE consists of two (2) units: the Fire Control Unit (FCU) and the Firing Unit (FU). The DIFCUE simulates the vehicle receiving a direct/indirect hit from incoming rounds. It gives an audio (bang) and visual (smoke) indication when a vehicle is hit. The DIFCUE is mounted dependent on the type of vehicle. When the MILES 2000 system detects incoming fire, which results in a Catastrophic Kill, the DIFCUE (FU) activates a pyrotechnic to simulate a hit on the vehicle, then sends a signal to the FCU to decrease a round.

1.11.7 Control Unit (CU). The CU provides the following: casualty assessment using Probability of Kill (Pk) tables, records/stores event data (500 events maximum), provides system real-time clock, monitors system for hardware failures and for cheat attempts, and commands KSI to flash.

Table 1-4. Kill Indication Chart.

Type of Hit/Kill	Number of KSI Flashes	Audible Indication
Vehicle		
SMAW Spotting Rifle	1 Flash	None
Near Miss	2 Flashes	Near Miss.
Hit	4 Flashes	Hit.
Mobility Kill	4 Flashes	Hit, Mobility. Stop Vehicle. (The crew has 20 secs to bring the vehicle to a stop.)
Fire Power Kill	4 Flashes	Hit, Fire Power.
Communications Kill	4 Flashes	Hit, Commo Kill. (disables external communications only)
Catastrophic Kill	Flashes Continuously	Vehicle Kill
Administrative Kill	Flashes Continuously	Vehicle Kill
Cheat Kill	Flashes Continuously	Cheat Kill
Reset/Resurrect	1 Flash	Reset/Resurrect
IWS		
Near Miss	N/A	2 Beeps
Kill	N/A	Continuous
Administrative Kill	N/A	Continuous
Cheat Kill	N/A	Continuous
Reset/Resurrect	N/A	4 Beeps
<p>Notes: Cheat Kill will occur during a Mobility Kill if the vehicle does not stop within the allotted 20 seconds or moves after it has stopped. A Cheat Kill will occur when disconnecting any of the following pieces of vehicle equipment: KSI, any Detector Belt/Array, or Power Controller (must be reconnected for cheat to be indicated), or removing the battery on IWS Console (DPCU).</p> <p>In the event of a Catastrophic or Communications Kill, external communications can be over-ridden for EMERGENCIES ONLY by pressing the USER INFO push button on the Control Unit, selecting communication override and pressing the ENTER push button.</p>		

1.11.8 Power Controller. The Power Controller contains a rechargeable battery pack and operates from the vehicle power to maintain the battery charge. It automatically switches to the internal battery to provide power when the vehicle power drops lower than the internal battery power, or when the vehicle power is removed from the MILES 2000 system.

1.11.9 TOW Simulator Tube and Tracker Head Assembly (M996 only). The TOW is fired using normal procedures. The launcher is equipped with two (2) TOW Simulator Tubes. The TOW Simulator Tubes are loaded with Anti-tank Weapons Effect Signature Simulator (ATWESS) cartridges. When the TOW is fired, the ATWESS cartridges detonate providing noise, flash, and smoke simulation of an actual missile launch. The laser transmitter fires after the ATWESS device. The TOW sight must be used to track the target for 15 seconds to obtain a Hit or Kill status. A Hit or Kill indicates that the gunner has properly tracked the target and the 15 seconds simulates a tracking time of an actual missile. After firing the TOW, the number of remaining TOW rounds will be displayed on the TOW Tracker Head display window.

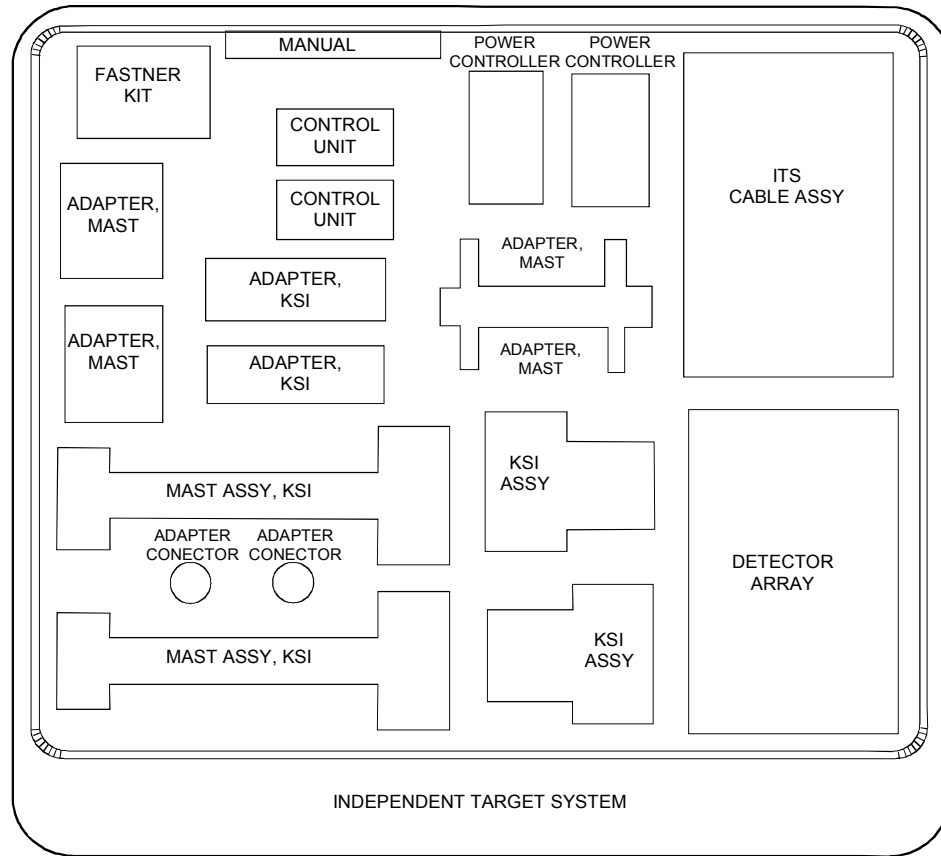
Table 1-5 defines the Kit/Equipment List, with supporting Figures 1-1 and 1-2.

Table 1-5. Kit/Equipment List.

PACKAGE NOMENCLATURE: SIMULATION SYSTEM, INDEPENDENT TARGET SYSTEM				
PACKAGE PERTAINS TO: 147000-1				
PACKAGE CONTENTS				
QUANTITY	NAME OF ITEM	DWG NO.	PART NO.	NOTES
1	CONTROL UNIT ASSEMBLY	146402	146402-1	
1	KILL STATUS INDICATOR ASSEMBLY	271105	271105-1	
1	POWER CONTROLLER ASSY	146409	146409-1	
1	MAST ASSY, 20 INCH, UNIVERSAL	146708	146708-2	
1	CABLE ASSY, INTERNAL/EXTERNAL – ITS VEHICLES	147003	147003-1	
1	ADAPTER, KSI, MAST, U-BOLT AND SQ. BOLT MTG	147009	147009-1	
1	ADAPTER, KSI, MAST, HOOK AND LOOP MTG	147014	147014-1	
1	ADAPTER, KSI – HOOK AND LOOP MOUNTING	147036	147036-1	
1	DETECTOR, ARRAY ASSEMBLY-ITS	147049	147049-1	
4	WEDGE ASSEMBLY, DETECTOR BELTS	146435	146435-1	
AR	TRANSIT CASE ASSY, ITS	147394	147394-1	1
2	U-BOLT, 1/2 IN SIZE, 3/8-16		8896T54	7
2	U-BOLT, 2 IN SIZE 3/8-16		8896T26	7
2	SQUARE BOLT, 4 IN SIZE, 3/8-16		3060T47	7
1	BAG, ZIPPED		19305T1	7
12	NUT, FLANGE, 3/8-16		93776A031	9
1	ADAPTER, CONNECTOR		11677570	8
AR	OPERATOR'S MANUAL		TD 63-6920-701-10	

NOTES:

1. TRANSIT CASE LOT 2 AND ON. PACK MAX. QUANTITY OF 1 ITS PER TRANSIT CASE.
2. MAY BE PURCHASED IN BULK QUANTITY AS PART OF VELCRO USA, CAGE CODE 11153, PART NO. 170790. THIS REEL CONSISTS OF 1200 STRAPS.
3. MAY BE PURCHASED IN BULK QUANTITY AS PART OF VELCRO USA, CAGE CODE 11153, PART NO. 170091. THIS REEL CONSISTS OF 900 STRAPS.
4. MAY BE PURCHASED IN BULK QUANTITY AS PART OF VELCRO USA, CAGE CODE 11153, PART NO. 170782. THIS REEL CONSISTS OF 600 STRAPS.
5. MARK THE TRANSIT CASE (2 PLACES) WITH THE ASSOCIATED DASH NUMBER AFTER THE BASIC PART NUMBER. THE MARKING SHALL BE .35mm HIGH CHARACTERS MINIMUM, COLOR WHITE NO. 27925 IN ACCORDANCE WITH FED-STD-595 OR EQUIVALENT. LOCATE WHERE SHOWN IN ACCORDANCE WITH TRANSIT CASE DRAWING.
6. CAGE CODE 39428
7. CAGE CODE 19207
8. CAGE CODE 39428 (MCMaster-CARR). P/N 93776A461 REPRESENTS A PURCHASE PACK OF QTY 25 FLANGE NUTS.



32000039-DT
PN 147394

Figure 1-1. Independent Target System Transit Case (Sheet 1 of 2).

Table 1-5. Kit/Equipment List - Continued.

PACKAGE NOMENCLATURE: SIMULATION SYSTEM, INDEPENDENT TARGET SYSTEM				
PACKAGE PERTAINS TO: 147000-2				
PACKAGE CONTENTS				
QUANTITY	NAME OF ITEM	DWG NO.	PART NO.	NOTES
1	CONTROL UNIT ASSEMBLY	146402	146402-1	
1	KILL STATUS INDICATOR ASSEMBLY	271105	271105-2	
1	POWER CONTROLLER ASSY	146409	146409-1	
1	MAST ASSY, 20 INCH, UNIVERSAL	146708	146708-2	
1	CABLE ASSY, INTERNAL/EXTERNAL – ITS VEHICLES	147003	147003-1	
1	ADAPTER, KSI, MAST, U-BOLT AND SQ. BOLT MTG	147009	147009-1	
1	ADAPTER, KSI, MAST, HOOK AND LOOP MTG	147014	147014-1	
1	ADAPTER, KSI – HOOK AND LOOP MOUNTING	147036	147036-1	
1	DETECTOR, ARRAY ASSEMBLY-ITS	147049	147049-1	
4	WEDGE ASSEMBLY, DETECTOR BELTS	146435	146435-1	
1	TRANSIT CASE ASSY, ITS KIT	148332	148332-1	2, 6
2	U-BOLT, 1/2 IN SIZE, 3/8-16		8896T54	7
2	U-BOLT, 2 IN SIZE 3/8-16		8896T26	7
2	SQUARE BOLT, 4 IN SIZE, 3/8-16		3060T47	7
1	BAG, ZIPPED		19305T1	7
12	NUT, FLANGE, 3/8-16 HEX, SERRATED, SS		93776A461	9
1	ADAPTER, CONNECTOR		11677570	8
AR	OPERATOR'S MANUAL		TD 63-6920-701-10	
4	STRAP, BLK, 3/4" X 6"		NOTE 3	
4	STRAP, BLK, 3/4" X 8"		NOTE 4	
4	STRAP, BLK, 3/4" X 12"		NOTE 5	

NOTES:

1. TRANSIT CASE LOT 2 AND ON. PACK MAX. QUANTITY OF 1 ITS PER TRANSIT CASE.
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5. MARK THE TRANSIT CASE (2 PLACES) WITH THE ASSOCIATED DASH NUMBER AFTER THE BASIC PART NUMBER. THE MARKING SHALL BE .35mm HIGH CHARACTERS MINIMUM, COLOR WHITE NO. 27925 IN ACCORDANCE WITH FED-STD-595 OR EQUIVALENT. LOCATE WHERE SHOWN IN ACCORDANCE WITH TRANSIT CASE DRAWING.
6. CAGE CODE 39428
7. CAGE CODE 19207
8. CAGE CODE 39428 (MCMaster-CARR). P/N 93776A461 REPRESENTS A PURCHASE PACK OF QTY 25 FLANGE NUTS.

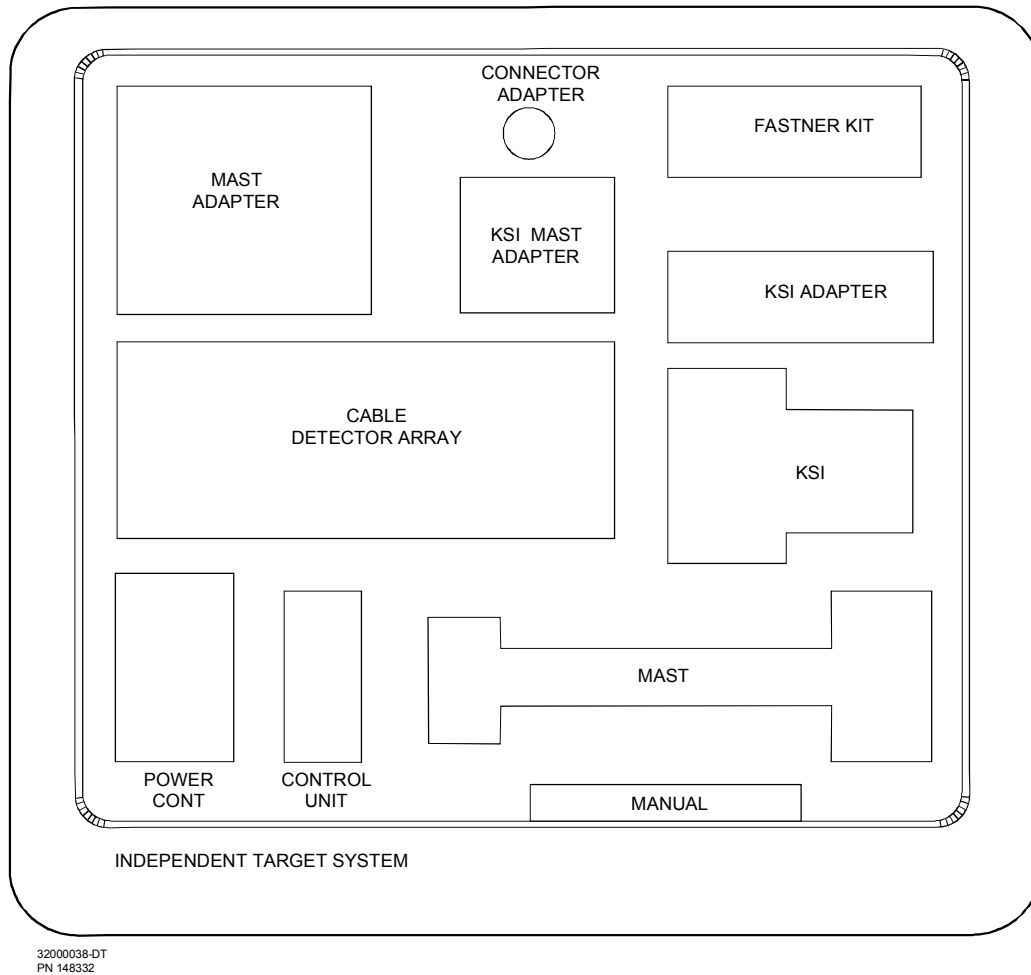
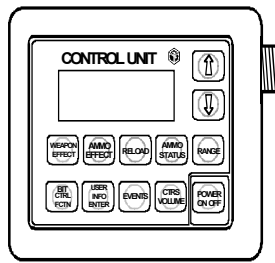
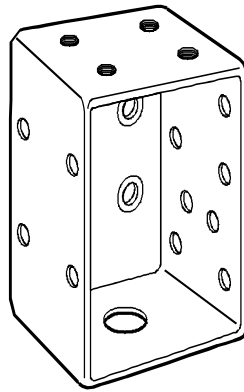


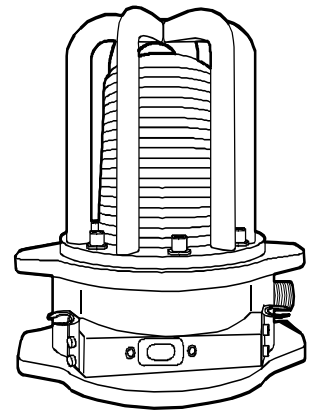
Figure 1-1. Independent Target System Transit Case (Sheet 2 of 2).



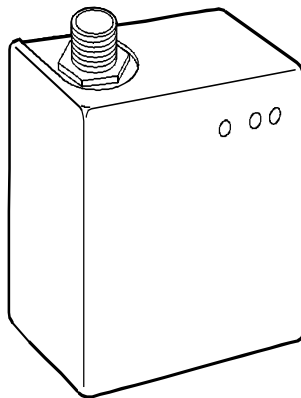
CONTROL UNIT



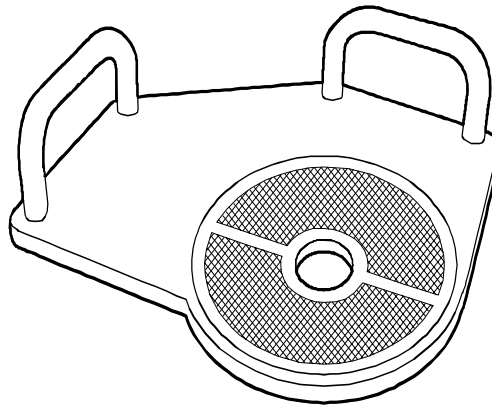
KSI/MAST ADAPTER



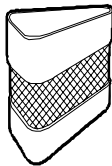
KILL STATUS INDICATOR (KSI)



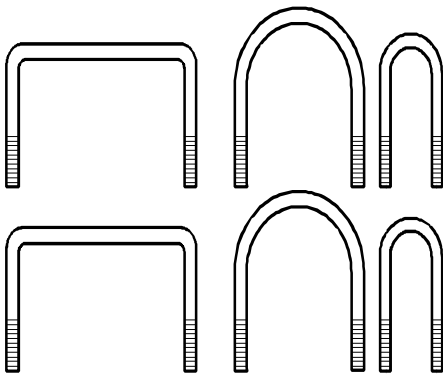
POWER CONTROLLER



KSI ADAPTER PLATE

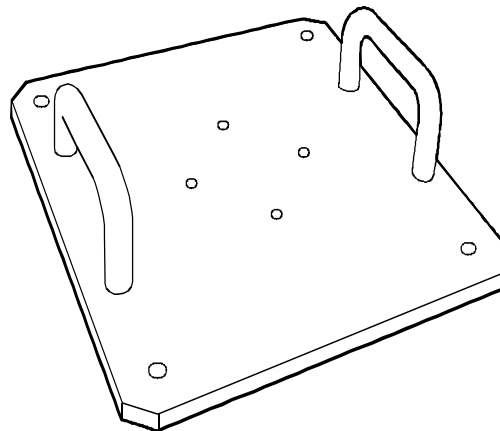


WEDGE

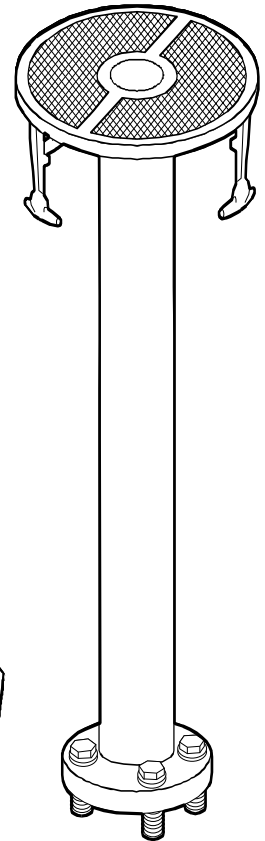


SQUARE U BOLTS

U BOLTS



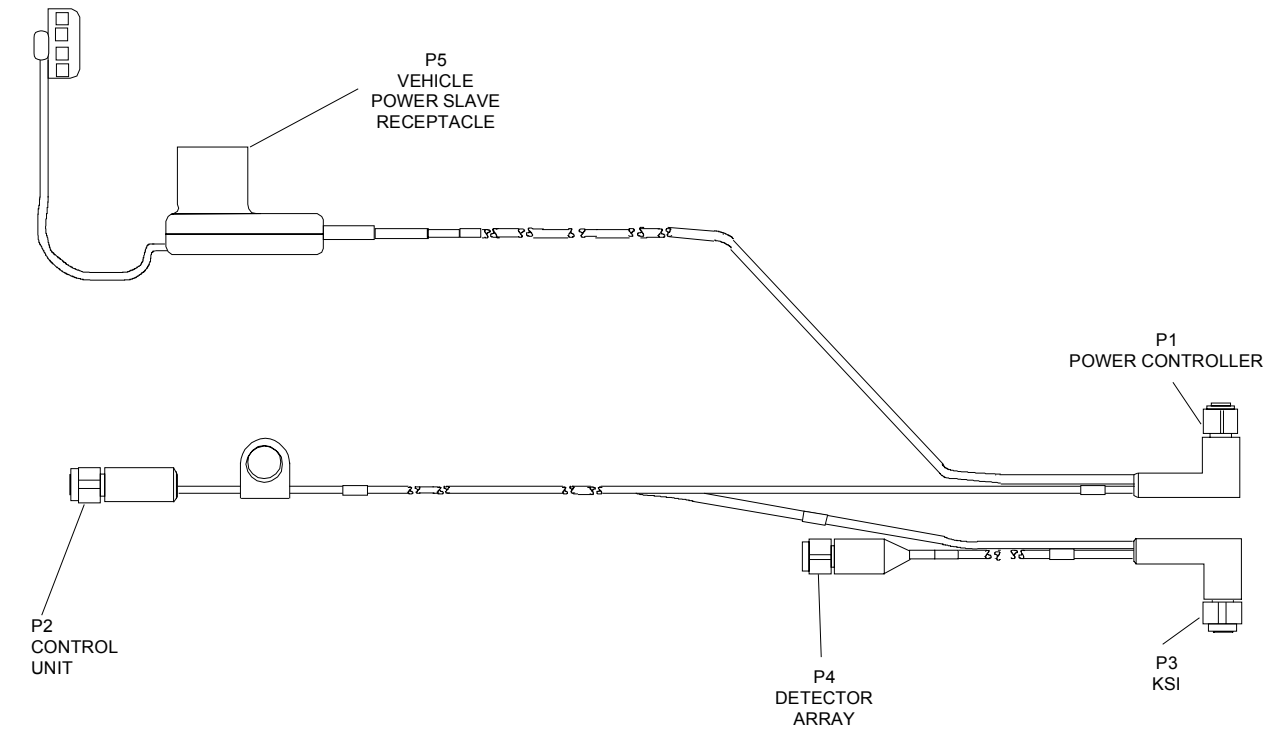
MAST ADAPTER PLATE



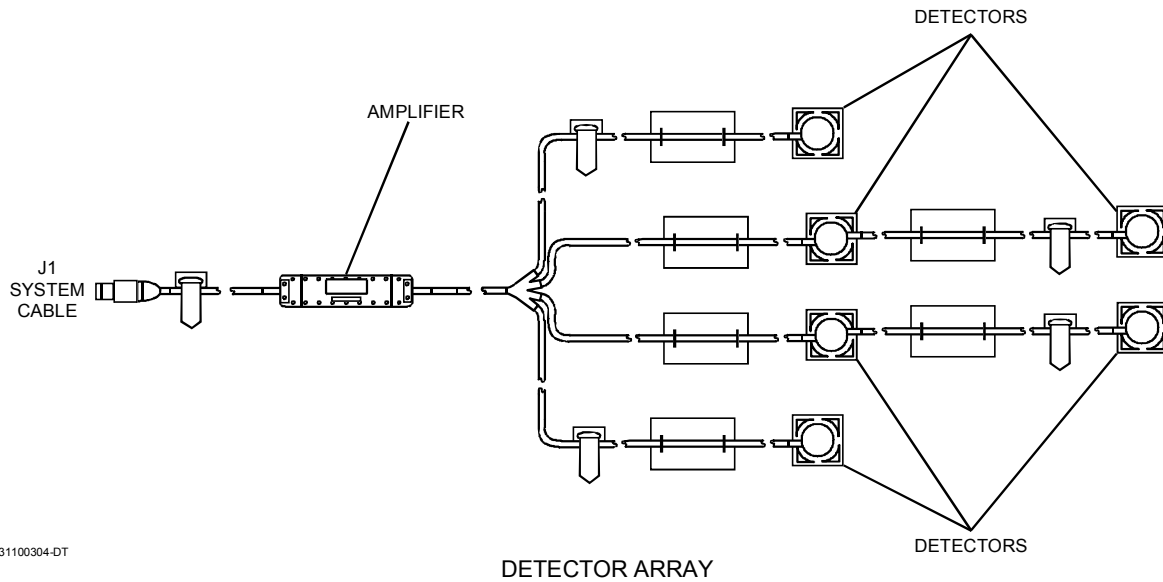
KSI MAST ASSEMBLY

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Figure 1-2. ITS System Components (Sheet 1 of 2).



SYSTEM CABLE



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Figure 1-2. ITS System Components (Sheet 2 of 2).